RICE LAKE NATIONAL WILDLIFE REFUGE MINN.

MILLE LACS REFUGE

MINN.

SANDSTONE UNIT

1971

* * * *

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF SPORT FISHERIES & WILDLIFE FISH AND WILDLIFE SERVICE MC GREGOR, MINNESOTA

RICE LAKE NATIONAL WILDLIFE REFUGE
MILLE LACS REFUGE
SANDSTONE UNIT

1971

* * * *

XXXX

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF SPORT FISHERIES & WILDLIFE

FISH AND WILDLIFE SERVICE

MC GREGOR, MINNESOTA

REFUGE PERSONNEL

Carl E. Pospichal

Leonard F. Hurd

Leland A. Thornbloom

Refuge Manager

Maintenanceman

Biological Technician

W.A.E. EMPLOYEES

Dwight C. Bailey

John A. Nordstrand

Laborer, Farm

Laborer, Farm

$\underline{C} \ \underline{O} \ \underline{N} \ \underline{T} \ \underline{E} \ \underline{N} \ \underline{T} \ \underline{S}$

agen		rage
I.	General A. Weather Conditions	1
	A. Weather Conditions	3
	l. Water	3
	2. Food and Cover	3
	Z. FOOD dild Cover	3
II.	Wildlife	
ala ala V	A. Migratory Birds	4
	B. Upland Game Birds	7
	C. Big Game Animals	7
	D. Fur Animals, Predators, Rodents, and	
	Other Mammals	8
	E. Hawks, Eagles, Owls, Crows, Ravens,	
	and Magpies	9
	F. Other Birds	9
	G. Fish	10
	H. Reptiles	10
	I. Disease	10
III.	Refuge Development and Maintenance	
	A. Physical Development	10
	B. Plantings	11
	C. Collections and Receipts	11
	D. Control of Vegetation	13
	E. Planned Burning	13
	F. Fires	13
IV.	Resource Management	13
	A. Grazing	13
	B. Haying	13
	C. Fur Harvest	13
	D. Timber Removal	13
	E. Commercial Fishing	13
	F. Other Uses	10
V.	Field Investigation or Applied Research	
V a	A. Fish Salvage	14
	B Waterfowl Banding	14
	C. Canada Goose Flock	14
	D	
	E	
VI.	Public Relations	
- Jan -	A. Recreational Uses	15
	B. Refuge Visitors	15
	C. Refuge Participation	15
	D. Hunting	15
	E. Violations	16
& -y inferredor	Ohl There	
VII.	Other Items A. Items of Interest	17
		18
	B. Photographs	18
	U. DIKIIdUUTC	

RICE LAKE NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY - DECEMBER, 1971

I GENERAL

A. Weather Conditions:

		Precipitati			Max.	Min.
	Month	Normal	<u>Snowfall</u>		Temp.	$\underline{Temp_{ullet}}$
January	.64	.633	22.0		30	-27
February	2.11	•599	25.4		47	- 32
March	. 97	1.239	10.2		46	-19
April	•99	2.343	6.5		73	4
May	2.78	3.716	2.0		78	27
June	4.84	4.071	-		88	38
July	3.75	4.440	-		84	39
August	2.55	3.970	-		89	36
September	1.62	2.749	-		87	26
October	6.90	1.575	2.0		76	27
November	2.12	1.258	6.5		59	- 3
December	.85	.725	12.0		34	19
Annual Totals	30.12	27.318	86.6	Extremes	89	-32

The moisture listings for months in which snow fell include the precipitation which fell as rain and the snowfalls which were melted for measurement here at refuge headquarters. As usual our temperature data came from the Government Weather Station at the Sandy Lake Dam, located 23 miles north of refuge headquarters.

January was a bitter cold month with below zero readings recorded on 25 days. However, daytime temperatures were usually above zero which helped. Twenty-two inches of snow was received during the month.

February began cold and snowy. Average on ground snow depth on February 5, was 24 inches. By the middle of the month mild daytime temperatures began settling snow depths with a maximum for the month of 47 degrees. February 26 began as a mild, cloudy day. However, by noon it began raining, then turned to wet, heavy snow with strong winds. By evening there was six inches of wet snow and by morning 13 inches. The snow clung to everything and its sheer weight broke down trees, telephone and power lines. Headquarters and the residences were without power or heat from 11:30 p.m. Friday to 8:00 a.m. Sunday.

April and May were typical spring months. Several days of warm weather would be followed by the same of cold. April was not particularly a wet month but was cloudy and cool so the ground didn't dry. In early May ground conditions were very wet and no field work could be done. In general, May was fairly warm, but wet. On May 19, we had our last snowfall of the season. About two inches fell but melted rapidly.

June for the most part was unseasonably warm. It seemed as though we had either a northeast or east wind from Lake Superior which made it cool or we had southwest winds and hot humid weather. Temperatures in the high eighties were recorded on several occasions.

July, August and September had below normal precipitation. July and August were hot and dry, although rains were spaced just right to make haying difficult for area farmers. September was about normal temperaturewise, but cloudy, dark rainy days prevailed. The first light frosts came on September 19 & 22.

October was a miserable month with rain occurring on 15 days and the other days cloudy, dark and threatening rain. In fact October was the wettest recorded here since records began in 1945. October of 1970 was the second wettest recorded. Heavy frosts occurred October 12 and 13.

The weather moderated some and November settled down to a typical month. Then a week of rainy weather sat in from the 14th to 20th and brought precipitation for the month to above normal. This additional moisture added to that received in October made all off-road travel impossible and filled Rice River to overflowing. At the end of the month water levels were subsiding slightly. Snowfall for the month totalled 6.5 inches.

December recorded only 12 inches of snow which was way below that received in previous years. Temperatures were quite constant and very little cold weather received.

B. Habitat Conditions:

1. Water:

The ice went out of Rice River on April 12, and by April 21, Rice Lake was also ice-free. High water peaks were 98.10 for the Rice Lake control on April 22, and 99.50 for the Rice River control on April 14. Water levels were dropping by May 19, when two inches of snow fell. Heavy rains came late in the month. All controls were closed in June when rainfall was lighter at 4.84 inches. It was possible to hold elevations at or near approved levels with minor control adjustments. In late October heavy rains made considerable release of water necessary. Ground water rose with 6.90 inches of rain and all swampy areas were saturated and draining at the end of the year.

Rice Lake was frozen over by November 6, as was part of Rice River. The lake gauge on that date was 97.00 and the river 97.30. Total snowfall for the year was 86.6 inches and total moisture 30.12 inches, about three inches above normal.

Habitat conditions for waterfowl were excellent throughout the summer.

2. Food and Cover:

Food and cover production was excellent this year with good water control possible. The wild rice beds were good and wild celery heavy. Pondweeds produced excellent crops of seed. Roundstem bulrushes and other emergents provided excellent brood cover. Loafing spots along the Rice River and on Rice Lake were heavily used where available. More of this type of habitat is needed here.

Cultivated crops produced fairly well and the combination of heavy fall rains with potholes adjacent to the fields, made duck use of oats and buckwheat especially good. Geese also used corn, browse and crop units.

Wood duck roosts on Rice Lake and Rice River were used. Wakefield Brook was again a favorite spot and the Beaver Pool built a couple of years ago developed into an excellent roost area.

II WILDLIFE

A. Migratory Birds:

1. Whistling Swans:

Ice conditions were still quite heavy when the peak of the swan migration passed through this area. Again, the first swans using the refuge for feeding and resting came during the third week of April. Thirty-one birds made up the peak use during the spring. By the end of April all had left. One bird was trying vainly to remove a tight red neck band during the entire period of observation, probably ten minutes.

No summer use was observed.

Flocks of whistling swans were seen frequently after mid-October when the first of these birds dropped in on Rice Lake. The high population was 300 swans the first week of November. The next week the final 200 departed as the water areas froze over.

Total swan use was 4,711 use days, 1,841 more than in 1970.

2. Geese:

For the second year, no Canada geese remained on the refuge during the winter. All had migrated by the second week of November.

Eighty-three Canadas arrived on March 29, and built to a peak in mid-April. By April 20, some nesting was in progress. About half of the nesting population moved off the refuge to nest and data on nesting were gathered from over most of Aitkin County. Several were repeats from previous years. One 14 pound gander shot Easter Sunday near it's nest on the refuge was donated to the Wood Lake Nature Center May 6.

Refuge production was about the same as in 1970 with 150 young produced. Outside nesting contributed a like number to the population and these began to gather at the refuge when fledged in late July and during August.

Outside flights continued throughout the fall, especially to ponds, rice paddies and lakes. The peak fall population of 2,500 was reached in late September and early October. By mid-October there were also 500 lesser Canadas using the refuge. All geese left the refuge area by the second week of November.

As usual, blue and snow goose populations fluctuated drastically with only 30 present during the spring as compared with 300 a year ago.

The fall population was 3,500 in mid-October as compared to the previous year's peak of 800. Some flocks only remained on the refuge a few hours and manybpassed through without stopping.

A few white-fronted geese were present in early May.

Total refuge goose use was 199,451 days. This was 17,983 more than a year ago.

3. Ducks:

Ten mallards arrived with the geese on March 29, though there was little open water and that was below the Rice Lake control. A week later there were a few wood ducks and hooded mergansers on the refuge but still very little open water. The peak of just under 14,000 during the last week of April was about 2,000 less than last year. Most summer resident species plus migrants were here by that time.

Ducks, geese and coots all showed some increase in summer use over 1970. Black duck use was down by nearly half, as were pintails. Wood duck use nearly doubled. The total duck production of 2,080 young was up about ten per cent with green-winged teal showing the most increase.

The fall peak was up over a year ago by 19,000 mostly due to a larger concentration of ringnecks. Use days were up nearly 200,000. Ringnecks had been down slightly in 1970.

Total duck use for 1971 was 4,585,070 or 166,092 over the previous year.

4. Coots:

Arrival of 50 coots during the second week of April was the same time schedule as for several years past. The peak of 300 in late April was down by about 40 per cent by the summer population of 100 was equal to 1970. Fifty young were produced.

A slight buildup was evident during July and August. The peak of 30,000 was double the 1970 peak. This was higher than for several other recent years. A drop-off began by mid-October and by the end of the month nearly all coots had departed.

Total 1971 use days were 750,400, more than double recent years.

Total waterfowl use of the refuge in 1971 reached 5,539,632 days, more than a million increase over the previous year.

5. Other Water Birds:

Great blue herons returned to the rookery along Rice River but not to the island. The first was seen on April 7, and about 50 used the refuge until late fall. Total use was estimated down about 50 per cent.

Common loons were calling by April 20, though habitat was still coming out of winter ice. Peak use was five birds. Mandy Lake and Rice River were favored use areas.

Double-crested cormorants, though no longer nesters on the refuge, did visit occasionally. They were first seen April 29.

Pied-billed grebes were common summer residents. Horned grebes and eared grebes were occasional in spring and fall. Red-necked grebes were spring visitors.

American bitterns were common, spring through fall. Green herons were seen occasionally.

A pair of sandhill cranes arrived back at the refuge on April 11, and remained throughout the summer. One young bird was noted with the adults in the fall.

Sora and Virginia rails were common during the summer, being heard much more frequently than seen.

Belted Kingfishers arrived by mid-April and were present until late fall.

6. Shorebirds, Gulls and Terns:

Killdeer were the usual first arrivals, some noted by March 30. Nesting was common on trails and fields. Common snipes were present throughout the spring and summer. The wet meadows and flooded bogs made excellent habitat for these birds. Spotted sandpipers were the most common of the summer residents. Lesser wellowlegs were fairly common with greater yellowlegs seen during migrations. During those periods semi-palmated plovers, golden plovers, pectoral sandpipers and least sandpipers used the refuge flats and pool margins.

Herring gulls and ring-billed gulls were refuge visitors from early spring through late fall, with the latter more common.

Common and black terns were summer residents, May to September.

B. Upland Game Birds:

Ruffed grouse populations on various refuge areas were fair to good. Drumming was in progress by mid-April. Production was promising but the fall population was not up to expectations. Brood mortality appeared heavy through natural losses.

Sharp-tailed grouse held their own numbers at about 30 to 40 birds using the refuge as well as adjoining lands.

Birch, hazel, aspen and in the spring, pussy willows provided good cool season food for grouse. Birch and hazel seemed to get preference.

Woodcocks used the refuge lightly with limited nesting in a few favored areas. The spring migration is generally very early, with snow sometimes present when the first birds are noted. Surveys should be run in late April in this area. The fall migration was light with no concentrations noted on the refuge.

C. Big Game Animals:

The refuge carried a light winter population of white-tailed deer. Major concentrations were off the refuge but these animals had moved back into summer range from winter yards by early April. Early winter was fairly easy but heavy snows in January and February put a stress on these animals for an extended period. Mortality on the refuge was low but reports of predation in adjacent areas were common. Coyotes were most blamed, though dogs were the ones actually observed in the chase.

The fawn crop was fairly good, with twins seen regularly. The overall population was below that of the previous several years. There were enough animals in public use areas to permit visitors the pleasure of seeing them.

The population for fall hunting did not justify a season for firearms. This was also the case in much of northern Minnesota. The bow and arrow season brought light hunting and no known kills.

Moose were uncommon on the refuge but tracks and occasional reports showed they still use the refuge. One large bull was frequently noted on a farm adjacent to the south refuge line. A cow was seen October 18, in the north bog by Bailey and Nordstrand and previously by state personnel.

Black bear were seen occasionally by refuge personnel and several times were reported by visitors. The population remained fairly

stable since a occasional kill adjacent to the refuge provides a control. Refuge oak trees showed the usual fall damage from feeding bears.

D. Fur Animals, Predators, Rodents and Other Mammals:

Mink were down in numbers but did use areas of suitable habitat throughout the refuge. Muskrats were fairly common. Fur prices on both species discouraged trapping.

Otters are a special treat to wildlife observers. Since they are so mobile, outside trapping took a few. The refuge population remained quite stable. No refuge trapping was permitted.

Beaver were distributed over the entire refuge, in lakes, streams, ditches and ponds. In most areas they are beneficial in holding water and providing a sight for visitors. School groups were especially fascinated. Many beaver cuttings were handled by these youth groups. A season was opened but local interest in trapping was low. Problem areas were taken care of by refuge personnel.

Weasels were again common.

Red foxes continued a downward trend. Old dens were not used in several areas but some fox pups were seen. Trapping along the refuge boundary brought these down to an occasional animal.

Coyotes have increased in numbers to the extent that they were commonly heard and sometimes seen. A den of three pups was located on the east side of the refuge.

Raccoons reached a low not experienced for several years. Sick animals were noted in early spring. Signs along water areas were not heavy as before.

Badgers used the refuge lightly with no notable change in population as experienced by digging or sightings.

Bobcats were also present in low numbers. Their range of travel carries them well off the refuge. One large specimen was caught in a wood duck trap and released. Its arrogance and face-saving retreat were a sight to behold.

Skunks were seen regularly. Control was light and in conjunction with other operations.

Porcupines remained common on the refuge. Most feeding was on deciduous trees and damage did not warrant control.

Red squirrels were common, grays light in numbers and fox squirrels rare. Flying squirrels were seen occasionally.

Chipmunks and 13-lined ground squirrels were common. Franklin's ground squirrels were present but scarce. Other small mammals included meadow and red-backed voles, deer mice, kangaroo mice, star-nosed moles, least and short-tailed shrews. Little brown bats were most common of the bats.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies:

Hawk numbers showed little variation from last year with major movements through this area in April and September. Sparrow hawks were most common but a fair population of red-tailed hawks and broadwings remained through the summer. Occasional goshawks were seen year-round. Roughlegs were most common spring and fall but sometimes one was seen in winter. Marsh hawks were only fairly common. Cooper's and sharp-shinned were less commonly seen. Turkey vultures were occasional visitors, as were ospreys. This bird could find suitable refuge nesting habitat but does not as yet. It is a fairly common nester in this general area. Northern shrikes were seen throughout the winter.

By early March the refuge nesting pair of bald eagles could be seen. The nesting was apparently successful as two young were observed. The peak fall population was on November 1. On that date, four adults and 14 young were noted. The last observation was one adult on December 5.

Owls were seen in about the same numbers as in previous years except that barred owls seemed slightly less common and the predicted influx of snowy owls brought only a very few of these birds. Greathorned owls persisted in fair numbers. Screech, saw-whet and longeared owls were less common but present. No great-gray owls were noted this period.

Crows were common, with a few in the vicinity throughout the year. This is uncommon but spillage from grain trucks along the highways may be enough to sustain them in mid-winter. Ravens could be seen almost daily in the winter. Magpies were infrequent visitors.

F. Other Birds:

Records were kept on small bird observations. Most species on the refuge list were seen. Pine grosbeaks were especially common during the late fall. One eastern meadowlark stayed at the refuge head-quarters until mid-December, in spite of snow cover.

G. Fish:

Fish salvage operations on Rice Lake ran until March 16, about ten days longer than in 1970. Oxygen depletion at trap sites put an end to the operation. During the spring a good run of northern pike again entered the refuge. Production was excellent. Salvage operations by D.N.R. for restocking Minnesota lakes resumed on October 18, with installation of lake outlet trap but trap leads were left open until November. Total take for the year was 47,731 northern pike weighing 13,379 pounds. Several tons of rough fish including yellow perch, bullheads, dogfish and burbot were also taken.

Good populations of fish were available for summer fishermen.

H. Reptiles and Amphibians:

Garter snakes remained the most common refuge repule. Green snakes and red-bellied snakes were less common. Painted and snapping turtles were present in good numbers.

Spotted salamanders, leopard frogs, mink and copper frogs, spring peepers, tree toads and common toads were all common.

I. <u>Disease</u>:

Illness among raccoons was noted during the spring and the population is down. Distemper was suspected.

III REFUGE DEVELOPMENT & MAINTENANCE

A. Physical Development & Maintenance:

Much time was spent in rehabilitation of refuge roads and trails, including raising to all-weather status and replacing or installing culverts.

Several dikes were raised and animal runs filled. Debris removed from controls and cement work grouted.

Roads were maintained, some graveled and roadsides mowed. Culverts were rip-rapped.

Maintenance of buildings, picnic area, fishing area, etc., involved much painting, mowing and garbage hauling.

Fences were repaired and removed as needed on both Rice Lake and Sandstone.

All septic tanks were serviced.

Roads at Sandstone were bladed by cooperation with prison labor. An underground power line was installed at Sandstone to service refuge neighbors.

B. Plantings:

1. Aquatic and Marsh Plants:

The Government share of wild rice from the Indian rice harvest was seeded back into Rice Lake in the area immediately in front of the rice landing. After donations to other organizations this amounted to 3,787 pounds. (See Collections and Receipts.)

2. Trees and Shrubs:

None.

3. Upland Herbaceous Plants:

None.

3. Cultivated Crops:

Twenty-eight acres of corn produced an estimated yield of 35 bushels/acre.

Oats planted on 24 acres yieled 25 bushels/acre and 23 acres of buckwheat an estimated yield of 15 bushel/acre.

Due to wet weather conditions crops were planted in early June. All grain was completely utilized by waterfowl and other wildlife.

C. Collections and Receipts:

The wild rice harvest began September 8, 1971 and ended September 20, 1971. The number of boats varied from a high of 55 to a low of 19. The following table shows the number of boats on the lake for the ten actual days of ricing.

Date	No. Boats	Date	No. Boats
9/8	53	9/14	47
9/9	55	9/15	24
9/11	49	9/16	41
9/12	50	9/18	19
9/13	50	9/20	20

During the ten day harvest period a total of 51,085 pounds of rice was picked. The Government share of eight per cent amounted to 4,087 pounds. Two hundred pounds of this amount was donated to the Minnesota Department of Natural Resources for seeding the newly developed Kimberly Marsh and 100 pounds was donated to the U.S. Forest Service for seeding in the Chequamegon National Forest in Wisconsin. The balance of 3,787 pounds was put back into Rice Lake for reseeding.

The Manager and Biological Technician attended a pre-ricing meeting on September 3. This was just a general meeting to discuss mutual problems. One interesting observation was the Indians had pretty much decided on the number of boats to allow and to start ricing on a set date without a preliminary survey to determine whether the rice was ripe and whether the quantity was sufficient to warrant the number of boats they wanted. Upon the Managers insistence, Sam Yankee and his wife volunterred to check the crop. George Aubid, the apparent leader, refused as it took too much time with no pay. After discussion the Indians decided to hold their own auction and sale at Yankee Hall insteads of at the landing.

After Yankee's survey the Committee chose the starting date of September 8, 1971. They also determined 55 boats would be the maximum allowed. The local Indians that weren't allowed to rice last year were put back on. In addition, there were several persons on that had never riced here before. Generally, the operation went smoothly and few problems were encountered. Last year the Committee requested weekends off, but this year they riced the first weekend and took off Sunday the second weekend. The Committee again requested an extension to rice more than ten days. This request was denied.

Ricing conditions were better than last year. Higher water levels made poling easier and more area available. Weather conditions during the ricing period was fair. Some rain occurred but there wasn't many windy days. Of 55 boats issued permits the average number of canoes on the lake for the ten days came to 48. This was a higher average than usual and was probably due to the lack of wind and higher water levels.

On September 9, 11 and 12 the Indians sold their rice for \$1.18 a pound. They then contracted to one buyer for the balance at \$1.15 per pound. Many Indians took their rice home to finish and sell themselves. They feel they make more money this way. Again, rice quality was down due to less care taken in harvesting. The average season take per boat (less the Govt. share of 8%) amounted to 979 pounds. The average number of boats picking for the ten days was 48 and the lowest number picking on any one day was 19.

D. Control of Vegetation:

Roadside mowing was done on all refuge roads and trails. Thistle patches were mowed before the bloom stage.

E. Planned Burning:

None.

F. Fires:

None.

IV RESOURCE MANAGEMENT

A. Grazing:

One permittee grazed a total of 15 animals for 75 AUM's.

B. Haying:

Nine permittees cut a total of 575 tons of hay. The increase in tonnage over past years was due to hay being cut on the Sandstone Unit. One permittee cut and removed 250 tons. This was the first hay cutting since the unit became part of the refuge.

C. Fur Harvest:

None.

D. <u>Timber Removal</u>:

Permits were issued to Alfred Koski and Ben Kangas for removal of aspen pulpwood. The two sales totalled 250 cords and a return of \$275.00.

E. Commercial Fishing:

None.

F. Other Uses:

None.

V FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. FISH SALVAGE:

See "Fish."

B. Waterfowl Banding:

The five year ring-necked duck banding program continued. This is in cooperation with the Minnesota Department of Natural Resources. Night-lighting was employed using three boats with two-man crews. One crew was the Refuge Manager, Pospichal, and Biological Technician Thornbloom. The quota of 500 plus ringnecks were captured in three nights.

Banding information for the first year shows high hunting mortality. Of 364 immature birds banded, 17.6% were shot and reported the first hunting season. The adult segment of banded birds were shot at about half the rate of immatures, or 8.1% recovery.

Of the immatures, 77% were recovered in Minnesota. Of the adults plus immatures, 60% of the state recoveries were from Aitkin County. The rest were recovered north and west of the refuge.

Indications of wintering show a band from Florida to Louisiana. No birds captured here had been previously banded. Six were flapper hens.

Half the banded birds recovered in Minnesota were taken during the first week of the hunting season. Only one was recovered in November.

Reasons for outside flights showing high mortality are under investigation.

Wood duck banding showed 61 birds banded in September.

C. Canada Goose Flock:

The study on dispersal of the refuge Canada goose flock outside of the refuge continued. Data were compiled for later write-up.

VI PUBLIC RELATIONS

A. Recreational Uses:

As in the past many people drove through the refuge in the hopes of seeing some form of wildlife.

Once again the refuge was used by 4-H groups for conservation education and also to assist the refuge in litter cleanup.

The picnic area continues to be a popular spot and use continues to increase.

Fishing brought in many users. It is surprising how many people like to fish from a bridge. Some bring their coolers, grills and chairs and settle in for the day. It is also strange how possessive fishermen become of a bridge and seem to resent any use by automobiles.

B. Refuge Visitors:

See attached list.

C. Refuge Participation:

See attached list.

D. Hunting:

1. Deer Hunting:

Because of a relatively low deer population in much of northern Minnesota, the gun deer season was not held in this area in 1971. Bow and arrow deer hunting was permitted on the refuge. Although there were a number of bowmen trying their luck, no bow-killed deer were observed. The early winter population was fairly good in some portions of the refuge but overall lower than for several years. The exception was the previous post-season population.

2. Waterfowl:

Many waterfowlers have up early in the season and things didn't get much better. The hunting was about as poor as in any recent

Name	<u>Organization</u>	<u>Date</u>
Bob Drieslein	Sherburne NWR	1/25
James Kimball	Minneapolis Tribune Writer	1/29
D. Umberger	Bureau	2/24
Joe Wilson	State Forestry Division	3/10
Harry Pinkham	USGMA	3/16
Larry Bunge	State Forestry Division	4/12
Dave Dickey	State Game Manager	4/12
H. McLaine	Government Auditor	5/17
James Monnie	Bureau	5/19-21
Travis Roberts	Bureau Regional Director	9/20
James Monnie	Bureau	9/22-23
Forrest Carpenter	Bureau	10/29
Harry Pinkham	USGMA	12/22

In addition there were many visits by Lester Dundas, Staff Specialist of the R.O., local foresters, game wardens, timber cruisers, Minnesota State Fish Rescue crews and others too numerous to list.

Mr. John Gill, Instructor of Wildlife Technology at the Brainerd Vocational-Technical School was a frequent refuge caller and uses the refuge for student field trips.

Group	<u>Date</u>	<u>Participation</u>
Cuyuna Range Sportsmens Club	3/4	Slides and talk
Dam Lake Sportsmens Club	3/5	Attend - Public Relations
Cloquet Senior High School	4/20	Talk and tour
Duluth 4-H Club	5/22	Talk and tour
Hibbing Grade School	5/26	Talk and tour
Cloquet Biology Class	6/10	Talk and tour
McGregor Head-Start Classes	6/21	Talk and tour
Covenant Pines Bible Group	7/16	Tour
Senior Citizens - Aitkin	7/20	Talk and tour
Long Lake Conservation Center	7/22	Talk and banding demonstration
McGregor Trade Fair	7/23-24	Exhibit
Long Lake Conservation Center	8/5	Talk and banding demonstration
Long Lake Conservation Center	8/19	Talk and banding demonstration
Lutheran Church Group	8/26	Talk and tour
Brainerd TechVocational	- /	
School	9/16	Talk and tour
Cloquet Junior High	10/5	Talk and tour
McGregor Lions Club	12/13	Talk and film

In addition there were many small refuge tours for visitors and miscellaneous small groups.

year. Ringnecks again took the brunt of the pressure as their flights out of the refuge exposed them to gunning on local waters. The only bright spot was increased flights, mostly from the refuge, to local rice paddies. Those with hunting privileges had good luck. A new development for this area was the signs of a firing line adjacent to the paddies. The new Kimberly Marsh, developed by the State, plus these rice paddies, will put previously unknown strains on both the refuge duck and goose populations. This could be especially hard on the refuge Canada goose flock. The potential for paddy-type marsh development on this refuge is extensive and excellent. This has been recommended in the past and should receive further consideration for the near future. It could help to balance the attractiveness of the refuge and outside paddies where abundant food is available in just a few inches of water or on drained flats.

3. Grouse Hunting:

The refuge huntable grouse population was moderate to good as the fall progressed. Hunting in the heavy cover was tough early in the season and few hunters used dogs. Even fewer were the good dogs. Boundary pot-shooting got its usual heavy play in areas reachable by car.

E. Fishing:

Excellent fishing was enjoyed by northern pike anglers on the refuge fishing area. Although most fish were not large, they were gladly taken. Bullhead fishing was fairly good in the evenings. The refuge facilities provide easy access for older people with a minimum of equipment.

F. Violations:

Information bulletin boards and maps surely discouraged or prevented some problems, as did patrol. Minor infractions were encountered. The lack of a gun deer season prevented some problems which usually develop with high hunter concentrations.

There were no observations of ricing trespass but some evidence of night entry on the south side of Rice Lake was noted.

Press and other public information releases cut snowmobile trespass to some extent. Evidence of deer-chasing was noted on one occasion. Posting did not discourage all trespass in the vicinity of the bald eagle nest as this area was entered several times. Local suspects were located through discussion with other snowmobilers.

G. SAFETY:

Staff meetings involving discussions, movies, slides and other materials were held periodically.

VII OTHER ITEMS

A. Sandstone Unit:

Close contact was kept with prison training and administrative personnel to maintain cooperation and get refuge work accomplished. Some road blading and repairs were accomplished with prison labor and equipment. Progress on dike construction was held up by other prison jobs.

Fence removal in interior lines yielded materials for exterior boundaries and removed some from areas to be flooded. A beaver dam has already started some of this.

An easement was given to the North Pine Rural Electric Cooperative for an underground power line which was installed per agreement.

A portion of the area was mowed to improve wildlife habitat. Adequate grasslands were maintained for the promising sharp-tailed grouse population.

The deer population is down slightly and this was desirable in view of the previous high. Populations of furbearers native to this area, as well as ruffed grouse and other wildlife species appeared good. Both snow and Canada geese used the refuge area in small numbers and several species of ducks were noted.

Further fencing remains to be done and further conferences with the prison staff will be necessary for mutual understanding as there have been recent personnel changes. The firing range has been discontinued and it is hoped that some environmental education work will be possible there in the near future.

B. Items of Interest:

The Refuge Manager prepared Section I, part B, Section II, Section III, part A, Sections V, VI, VII, of this report. The Biological Technician prepared Section I, part A, Section III, parts B., C., D., E., Section IV, and portions of VI and VII. He also assembled and typed the report.

Under the revenue sharing program a check for \$383.36 was presented to the Pine County Auditor and a check for \$3,854.25 to the Aitkin County Auditor for use on schools and roads.

The Refuge Manager continued as 4-H leader in several projects and on County 4-H committees.

All photos were taken by Pospichal and Thornbloom and processed by Pospichal.

Submitted by:

(Signature)

Carl E. Pospichal Refuge Manager

Approved, Regional Office:

Date: MAY 221972

Date: May 18, 1972

4.SST

Regional Refuge Supervisor

Whitetails

L.A.T.

Z,



Pair of Hooded Mergansers

L.A.T.

켓



Earth nesting island with brush, usually the preferred site type at Rice Lake.

L.A.T.



Sometimes flotsam is good enough.

L.A.T.



Canada goose eggs hatching.

L.A.T.

燛



C'E'b'

.bnuoM nsibnI

9-IL



Hoar Frost.

C.E.P.

1



Hutari Pool in its first year - Small stoplog structure controlled.

Excellent waterfowl use.



This buldozed pond on the Peterson tract also provided excellent habitat.



Birch Pond created by installation of a simple plug dike - several waterfowl broods produced here.



Alsike clover planting along suitable areas of 8 miles of refuge trails produced excellent growth used by grouse, deer and other wildlife.

C.E.P.



Brush control to set back aspen growth in retired field - preferred wildlife habitat.



Natural white cedar reproduction - usually a difficult accomplishment. This is on bulldozed-cleared soil.



Results of fall webworm infestation (per Extension Entomologist) in late summer.

C.E.P.



Webworms crossing refuge trail.

C.E.P.

聚



A canopy and paint job dressed up and improved the TD-24 acquired from surplus.



Pipe arch culvert installation and road raising. Old cement culvert was inadequate and deteriorated and this area was a snowtrap.



Same area with 10 feet of fill and rip-rap. Road beyond was raised and slopes seeded after topsoil was replaced.



WATERFOWL

(1)	Jan		Weeks	of	(2) e p o r	ting	March			
Species	3 19	: 10-216	173- 23	24 ⁴ - 30	n5-6	7-613	147 20	21 8 27	28 2 6	7 -10
wans:										1
Whistling										
Trumpeter										
ese:										
Canada								-		
Cackling										
Brant								-		
White-fronted						V				
Snow			2							
Blue										
Other										
cks:										
Mallard		3								
Black	-									
Gadwall						/ .				
Baldpate	`					/ /				1
Pintail						1 7				
Green-winged teal						1 .				
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead	I	 								
Ring-necked	-									
Canvas back										
Scaup	-	-								
Goldeneye					-					-
Bufflehead										1 2 2 2
Ruddy										
Other						3 1 4				
ot:								*		

MONTHS OF TO REFUCE Rico Lako (3) (4) (2) Weeks of reporting period : Istimated : Production (1): waterfowl : Broods: Estimated 14 15 16 17 18 days use Species : seen : total Swans: Whistling 231-Trumpeter Ceese: Canada 400 22 002 Cackling Brant White-fronted Snow 10-10 Blue Other Ducks: Mallard 23,520 Black 2,170 Cadwall Baldpate 1 500 100 2500 -28,700 -7,000 Pintail boo 30 Green-winged teal 300 1500 100 43, 300 Blue-winged teal 500 2000 900 18,900 Cinnamon teal Shoveler 30 300 3,710 Wood 300 400 Redhead Ring-necked 30 ren 1000 10_570 Canvasback Scaup 2000 20 300 23_120 Goldeneye 50 200 100 2 450 Bufflehead 10 300 200 2.870 Ruddy Other Hooded Merganser 10 500 50 200 5.320 Coots: Common Mergarser 10 50 10 490 Coots: 200 3.850 300 over)

	(5) Cotal Days Use :	(5) (7) Peak Tumber: Total Production	SUMMARY
Swar	:: :::::::::::::::::::::::::::::::::::	30	Principal feeding areas Rico Lake, Rico River pool, pends
Cees	se <u>12.131</u> :	560	and potheles
Duck	cs 147,490	13,810	Principal nesting areas
Coot		550	Reported by
(1)	INST Species:	In addition to the birds liste	h 7534, Wildlife Refuges Field Manual) d on form, other species occurring on refuge during the ed in appropriate spaces. Special attention should be l and national significance.
(2)	Weeks of Reporting Period:	Estimated average refuge popula	ations.
(3)	Estimated Waterfowl Days Use:		umber of days present for each species.
(4)	Production:	sentative breeding areas. Broo	uced based on observations and actual counts on repre- od counts should be made on two or more areas aggregating Estimates having no basis in fact should be omitted.
(5)	Total Days Use:	A summary of data recorded under	er (3).
(6)	Peak Number:	Maximum number of waterfowl pre	esent on refuge during any census of reporting period.
(7)	Total Production:	A summary of data recorded under	er (4).

Interior Duplicating Section, Washington, D. C.
1953

WATERFOWL

(1)	May		Weeks	of	repor	ting	perio	d	July	
Species	2 = 8	9 = 15	16 3 22	23 - 29	30 5 5	6 6 13	13 7 19	20 8 26	27 9 2	4 = 10
wans:								20 = 20	21 - 3	- 10
Whistling							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Trumpeter				2 574						
eese:		+=-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1				ELL CONTROL	
Canada	350	350	350	400	400	350	350	350	350	350
Cackling									- 10	
Brant				Carlos Marie Land						Mary Control
White-fronted	10									
Snow					Mary State					
Blue							SELECTION OF THE			
Other					THE BUILDING					Dr. Alle
icks:							FELL MARK		TAX TO LOUGH	
Mallard	1,500	1.000	500	500	500	750	1.000	1,000	1,000	1-000
Black	100	50	50	50	50	60	80	80	80	80
Gadwall		The same of			The state of the s					
Baldpate	1.500	1,000	500	500	500	500	700	800	1,000	1_000
Pintail	50	50	10	30	10	730	10	10	20	20
Green-winged teal	2,000	1,500	1.000	1,000	800	200	200	200	300	300
Blue-winged teal	2,500	2,500	3,000	2_000	1,500	750	750	750	1,000	1,000
Cinnamon teal	dig When	-	-		-	-		- Applification	-	
Shoveler	200	100	50	50	30	30	30	30	50	50
Wood	400	4.00	400	400	500	500	500	500	500	600
Redhead	100	50	50	30	10	10	20	20	20	20
Ring-necked	500	500	300	100	150	200	200	200	250	250
Canvas back	50	50	10	10	10	20	20	20	20	20
Scaup	2,000	3_000	1,000	500	500	300	100	50	20	20
Goldeneye	50	10	10	20	20	20	20	20	20	20
Bufflehead	50	10	10	-	-		-	Appropriate .		-
Ruddy		-	are different	-						-
Other Hooded Merg.	100	100	100	100	200	200	200	200	200	200
AND A CONTRACTOR	200	200	150	100	100	50-	100	100	100	150

Rice Lake TO August , 19 71 MONTHS OF May REFUCE (3) : July Weeks of remorting periosept. : Estimated Production : 11 - 17 :18 - 24 :25-31 :1-7 :8-14 :15-21 :22-28 :29-4 : waterfowl : Broods: Estimated 12 : 13 : 14 : 15 : 16 : 17 : 18 Species : days use total : seen : Swans: Whistling Trumpeter Geese: 350 350 350 350 400 400 400 43,400 31 150 Canada Cackling Brant 70 White-fronted Snow Blue Other Ducks: 1.000 1.200 1,200 | 1,500 | 1,500 | 2,000 Mallard 1.000 127,050 21 250 9,100 100 100 100 80 80 80 80 20 Black ___ Cadwall -1,000 1,200 1,200 1,500 2,000 2,000 126,700 33 400 1,200 Ealdpate 20 20 20 20 50 100 100 3,710 20 2 Pintail 300 500 800 300 300 75,600 150 Green-winged teal 300 800 14 1,200 1,500 1,500 1,000 1,000 1,000 1,000 167,650 27 400 Blue-winged teal Cinnamon teal -50 50 50 50 50 50 6,790 20 50 2 Shoveler 600 600 800 600 600 800 800 67,900 23 350 Wood 20 Redhead 20 20 20 20 20 20 3,150 10 200 200 200 200 200 200 28,350 200 80 Ring-necked 20 20 20 20 Canvasback 20 20 20 2,730 10 20 20 20 20 20 20 Scaup 20 53,410 [0] Goldeneye 20 20 20 20 20 20 20 2,450 10 Bufflehead ___ 490 Ruddy -Other Hooded Merg. 200 200 200 200 250 250 250 22,050 13 150 Coots: 150 150 150 150 150 150 16,450 50 200 over)

Best possible image.

	(5) <u>Total Days Use</u> :	(6) Peak Number : [(7) Total Production	SUMMARY	
Swan	S desired :		-	Principal feeding areas Rice Lake, Rice River Pool ar	id
ees	se <u>43.470</u> :	400	150	form units.	90_
Duck	697 ,130 :	11,100	1,880	Principal nesting areas Rice Lake margine and grassle	nd
Coot	Blightown comments	200	50	Reported by Carl E. Pospichal; Refuge Manager	10
(1)	Species:	In addition to reporting peri	o the birds listed lod should be adde	7534, Wildlife Refuges Field Manual) on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be and national significance.	0000
(2)	Weeks of Reporting Period:	Estimated aver	rage refuge popula	tions.	0
(3)	Estimated Waterfowl				

Average weekly populations x number of days present for each species.

(4) Production:

Days Use:

Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

3-1750 Form NP (Rev. A. ch 1953) * FEB 141972 WETTERFOWL

REFUGE RICE LAKE

MONTHS OF SEPTEMBER TO DECEMBER , 19 &L

					(2)					
(1)	Sept.		Weeks		(2) oct. ort	ing	perio	d.		Nov.
	29 1 4	5 & 11	123- 18	194- 25	265-2	369	107- 16	17 8 23	24 9 30	31 - 6
Swans:									100	300
Whistling Trumpeter					•		10	30	100	300
Geese:										
Canada	400	500	1,000	1,500	2,500	2,500	1,500	1,000	500	400
Cackling			2,000	1,000	-,	150	500	250	50	400
Brant						200	300	250	30	
White-fronted						192-10-10				
Snow			- 20			500	200	500	100	
Blue						2,000	1,000	3,000	500	
Other										
Ducks:										
Mallard	2,000	3,000	5,000	15,000	20,000	20,000	25,000	20,000	15,000	10.000
Black	100	100	200	1,000	1,000	1,000	1,500	1,500	500	100
Gadwall					a reputation (see	/11		B. /		
Baldpate	2,000	3,000	4,000	20,000	15.000	15,000	10,000	7,000	2,000	300
Pintail	100	200	500	2,000	1,500	1.500	1,000	1,000	200	
Green-winged teal	800	2,000	5,000	7,000	5,000	4,000	4,000	3,000	4,000	500
Blue-winged teal Cinnamon teal	1,500	5,000	10,000	15,000	10,000	5,000	1,000	50		
Shoveler	- FO	100	100	000	200	200	100	50		
Wood	50 800	1,200	1,500	200	2,500	2,500	2,500	50	500	000
Redhead	20	20	50	500	500	1,500	1,000	1,500	300	200
Ring-necked	200	300	500	10,000	30,000	35,000	55.000	20.000	10.000	5.000
Canvasback	200	20	50	100	500	300	1,000	500	200	100
Scaup	20	20	50	100	200	300	500	2,000	10,000	15,000
Goldeneye	20	10	10	20	20	20	30	50	100	100
Bufflehead					1400	10	30	50	100	100
Ruddy			10	200	300	200	100			
Other H. Merganzer	250	300	300	500	500	500	500	500	300	200
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								E Lat.
Coot:										
	200	3,000	10,000	25,000	30,000	20,000	10,000	5,000	1,000	100
Int. Dup. Sec., Wash	., D.C. 379	944								

WATE ONL (Continuation Sheet)

RICE LAKE MONTHS OF SEPTEMBER TO DECEMBER , 19 71 REFUCE (3) : W e : Nov. : : waterfowl : Broods: Estimated (1): 7 11 13 : 141220: 211327: 14 : 15 : 16 : 17 : 18 : days use : seen : Species total Swans: 4,480 200 Whistling Trumpeter Geese: 82,600 Canada 6,650 Cackling Brant White-fronted 9,100 Snow 45,500 Blue Other Ducks: 1,000 952,000 Mallard 49,000 Black Cadwall 548,100 Baldpate 56,000 Pintail Green-winged teal 226,100 Blue-winged teal 332,850 Cinnamon teal Shoveler 7,000 106,400 Wood Redhead 34,930 Ring-necked 1,162,000 Canvasback 19,530 1,500 Scaup 207,830 Goldeneye 100 3,360 Bufflehead 100 2,730 Ruddy 5,670 Other H. Merganzer 26,950 Coots: 730,100 over)

	(5) Cotal Days Use :	(6) (7) Peak Number: Total Production	SUMMARY	y derivati - Ordin reconsistance
Swar	: 4,480 :	300 :	Frincipal feeding areas Rice Lake, Rice River Poo	ol,
Gees	se 143,850 :	5,150	Agricultural units.	
Duck	3,740,450	103,260	Principal nesting areas	
Coot	730,100 :	30,000 :	207,830	
	Cinnamon scot Gioveler Tood Ledberd		Reported by Carl E. Pospichal; Refuge Manager)
(1)			h 7534, Wildlife Refuges Field Manual)	the
(1)	Species:		ed in appropriate spaces. Special attention should and national significance.	
(2)	Weeks of Reporting Period:	Estimated average refuge popula	ations.	
(3)	Estimated Waterfowl Days Use:		umber of days present for each species.	
(4)	Production:	sentative breeding areas. Broo	uced based on observations and actual counts on reproduced counts should be made on two or more areas aggregations. Estimates having no basis in fact should be omitted.	
(5)	Total Days Use:	A summary of data recorded unde	er (3).	
(6)	Peak Number:	Maximum number of waterfowl pre	esent on refuge during any census of reporting period	d.
(7)	Total Production:	A summary of data recorded unde	er (4).	

Refuge Rice Lake

MIGRATE BIRDS

(other than waterfowl)

Months of to April 19571

(1) Species	(2 First		Peak Nu			4) Seen		(5) Productio		(6) Total	
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimate Number	
I. Water and Marsh Birds: Common Loon Fied-billed Grebe Double-crested Cormonant Great Blue Heron American Bittern Belted Kingfisher Sandbill Grane	1 1 2	4/20 4/14 4/29 4/7 4/15 4/15	5 50 2 50 5	4/30 4/30 4/30 4/30 4/30	Summer Summer Summer Not yet Summer	resident resident resident noted resident resident	AMERICALIA PRESIDENTIAL	rut 50\$)	ist group birds its re added and Nati- res and G resand G	an 4 0 U ed on a supro- ed ed on out formes	
II. Shorebirds, Gulls and Terns: Killdeer Common Snipe Spotted Sandpiper Lesser Mellowlege Ring-billed Gull Herring Gull	3 2 25 20 10	3/30 4/16 4/16 4/15 4/15	20 20 10	4/30 4/30 4/30 4/30			from las	. year)			
(1)	(5)		18	(over)	(4			(5)		(e)	

MIGRAT BIRDS (other than waterfowl)

Refuge Rice Lake Months of May to August 19571

(1)		2)		(3)		4)		(5)		(6)
Species	First	Seen	Peak_	Numbers	Last	Seen		Production		Total
Common Name	Number	Date	Number	Date	Number	Date	Number	Total # Nests	Total Young	Estimate
COMMON NEED	Number		- Ituado		Number	Bate	001011108		Tours	Number
I. Water and Marsh Birds:			TA E	ENDERGRE I	Tage (ker	poniforms	s, Strigi	DINSS RD	Predace	one .
Common Loon	4	5/1	Summer	Resident	reons (co	rampi Lou	(88)			10
Horned Grebe	20	5/3	10	5/10		TETAL (DBTadTii	(rada)		50
Pied-billed Grebe	50	5/1		Resident		LOCALES	craes to 0	COSTUTE CA	sex pag 6	200
Great Blue Heron	80	5/1		Resident	T PS BTAS	L PO THOS	1 198	30	60	150
American Bittern	2	5/4		Resident	governg a	(enteres	LAE perio	i skonia	E Eggeg	100
Eastern Green Heron	or Iwo	5/18		Resident	In Lett.	ato.	T Section	A to the	12 14 12 13	10
Sandhill Grane	ope 2 out	5/1		Resident	CO.U. Cha	SKITSET I	DRI BRITI	on bad I		4
Sora	Summe:			KUDITONS						500
Virginia Rail		Residen			1					50
Belted Kingfisher	10	5/1	Summer	Resident		Reporte	PA TOTAL	445	2023/200	20
II. Shorebirds. Gulls and Terns: Lesser Yellowlegs Common Snipe Killdeer Spotted Sandpiper Common Tern Black Tern Herring Gull Ring-billed Gull	10 100 50 3 150 50 50	5/1 5/1 5/1 5/3 5/26 5/26 5/1 5/1	Summer Summer Summer Summer Summer	Ros.						200 500 100 250 300 400 20 50
II. Doves and Pizeons: Mourning dove White-winged dove	Dagosa	m Subser	Hostdo.	4			7 5.			10
	(8)		(over)	- (4	d .		(6)		143

(1)	(2)	(3)		(4)		(5)		(6)	
II. <u>Doves and Pigeons</u> : Mourning dove White-winged dove	Uncommon Summer	Resident					127	10	
*									
IV. Predaceous Birds:	3/1	Suinor T	LEASON .					30	
aldesidek eagle	Summer Resident	DECEMBER V	BIROL		1	1		10	
Duck hawk	Migrant Visitor	Delineration in	The state of the state of	Sovering to the second	and the last section	hemotopes des		4 20 30 20 500	
Horned owl	Resident			a processor in the second second		To un na dimensi		20	
Magpie Barred Owl	Resident		The second second	and the same of		-		30	
Raven	Resident			PUBLIC SERVICES	to a large management	The second of		20	
Crow	Resident	CARGOLINA D	Control of the later of			-	a demonstration	500	
	Res.		and death	plane in September				20 30 20 10	
Broad-winged Hawk	Summer Resident			profession of salary salar			-	20	
ed-tailed Hawk	Summer Res.	BOOK HE CONT			and the same of the same	- I - I - I - I - I - I - I - I - I - I		30	
Marsh Hawk	Summer Res.	No commence of				The state of		20	
Rough-legged Hawk	Summer Visitor					-			
Sparrow Hawk	Summer Resident	a	-1 2A			-		150	
Cooper's Hawk	1 5/9	Summer R	STOPIC			-	0 -	10	
Sharp-shinned Hawk	Summer Res.	pointers. 1	argone T	Repor	ted by	and &	torque	Oul 1	
Turkey Vulture	Summer Visitor		kaci izanihari					10	

(1) Species:

PROLICER BYACOLE

Pical-Dilled Grahe

MOTHER BERTON

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) tal: Estimated total number of the special using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

Estimated total number of the species using the refuge during the period concerned.

(Nov. 19-26) (other than waterfowl)

Refuge RICE LAKE Months of September to December 19871

	(1)		2)	(:	3)	(4	4)		(5)		(6)	
	Species	First	Seen	Peak N	umbers	Last	Seen	COLAST OF	Production		Total	
1.1	(X) Deak Mushage, make							Number	Total #	Total	Estimated	
	Common Name	Number	Date	Number	Date	Number	Date	Colonies	Nests	Young	Number	
_									Passer	Lformes)		
1.	Water and Marsh Birds:	1		IV. Pred	aceous B		oniformes	, Strigif	ormes and	predaceo	15	
	Pied-billed grebe	Summer	resident	refer to the state of the state	9/25	cons (Col	11/2	5)]	
	Great Blue heron	"		100	10/15	1118 a 5	10/28					
	American bittern Sora	mificance	Groups	60	10/15	ah Birds	10/15				iliformes)	
	Virginia Rail	ate spaces	pecies or Specie	300	9/13	be giver	9/24		of local			
	Sandhill Crane	m, other	pecies or	30	9/1 10/12	during jet	9/24		should b			
	Belted Kingfisher		general	TOTAL 418	9/28	"teri5"	11/2	addition		irds list		
	(I) Species: Use	the corr	ct names	1		O.U. Ches	11/2	Gl Editio	n, and li	St group	in A.O.U.	
	Cooper's hawk	T	10/7	INSTRU	TIONS			79IJ 1	. Pospici	ali Herui	e Manager	
_	Sharp-shinned hawk	DANGEST LA	ident F	(5)	2/0 L		stobot con	n2				
	Goshawk Sparrow hawk	Resident	Hidona . In	F	12/3	T T	Reported	PACON I	0 8 1			
	Red-tailed hawk	1	16	15	9/8	5	11/2					
	Broad-winged hawk	44	18	. 50	9/8		and and					
	Rough-legged hawk	11	41	20	9/8	10	11/13		- 1			
	Marsh hawk	Summer I	sident	. 25	9/8	3 1	12/23					
II.	Shorebirds, Gulls and	I	11/13	J	11/1/14		19/00		, <u> </u>			
	Terns:	Resident		10	3/1			- 1				
	Killdeer	Summer	resident	100	9/1	2	10/12					
	Semi-palmated plover	5	9/15	5	9/15	2	9/17					
	Golden plover	10	9/13	10	9/13	5 5	9/17					
	Common snipe	AND THE RESIDENCE AND ADDRESS.	resident	400	9/17	T 1	10/12					
	Spotted sandpiper		resident	100	9/13	7 1	11/3					
ngT	Pectoral sandpiper	10	9/8	50	9/15	75	9/17	•				
TA	Least sandpiper	10	9/8	10	9/8	3	9/15	- <u>- </u>				
	Lesser yellowlegs	30	9/1	100	9/13	2	10/28	- <u>- </u>				
	Black tern	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	resident	150	9/15	10	9/22					
	Common tern Ring-billed gull		resident visitor	100	9/13	5	9/24					
	Herring cull		visitor visitor	50 20	10/25	10	11/2					
III	Herring gull	Juliner	VISICOT	20	10/25	2	11/2					
							-		10)		(e)	
	(1)	(8)	(3	(over)	(4)		(5)		(6)	

(1)	(2)	(3)		(4)		(5)		(6)
III. Doves and Pigeons:	ominate Aratema	20	10/25	5	17/5				
Mourning dove	1 10/12	en l	10/25	10	11/2				
White-winged dove	Lauspress Learneur	T00 H	a/rad	2	9/24	7-			
9 sprey	Occasional visitor	TOO	-a\121	TO	9/22				
. Turkey vulture	2 9/8	700	8/13	4	9/22				
IV. Predaceous Birds:	70 30	70	3/9	3	9/,15				
Bald Gododenk eagle	Summer resident	9/18	11/1	1 0	12/5	+			H
Duck hawk G. Eagle	1 12/26	701	12/26	1 1	12/26				1
Horned owl	Resident	10	9/1	1 1	11/30				
Magpie N. shrike	1 10/20	TO	9/13	2 2	12/31			17	
Raven sims red bloker	Resident	10	10/29	5	9/17				
Crow	Resident	500	10/12	2 5	12/31				
Barred owl	Resident	20	9/1			3			
Screech owl	Resident	10	9/1	Page 3		10000			
Snowy owl	1 11/13	1	11/14	1	12/23				
Marsh hawk	Summer resident	25	9/8	3	11/2				
Rough-legged hawk		20	9/8	10	11/13	3 - 7			
Broad-winged hawk	" "	20	9/8						1-3-
Red-tailed hawk	" "	15	9/8	5	11/2	-			
Goshawk Sparrow hawk	Resident Summer resident	75	12/3	1	11/2 Reported	by Oa	Se	Pare	hurland
Sharp-shinned hawk	" "	5	9/18			Carl	E. Posp	ichal; Ref	uge Manage
Cooper's hawk	1 10/7	INSTRUC	CTIONS				1		1

(1) Species:

Virginia Rail

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) .otal: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

UNITED STATES

(Rev. Nov. 1957)

DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge	scal or c	NOT the fi	For 12	month perio		ust 31, 19
Reported by	med &	Synchol	Title .	रिकारियम हैंक	Prop	year Wand is sub
(1)		2)	gyj jaj	(3)	(4)	(5)
Area or Unit Designation		oitat	tices,	gement prac	Breeding	Design
	Type	Acreage	Spore Y	Use-days	Population	Production
Pier Takers can be !	Crops	ared acres	Ducks	The combine	pattern.	
Rice Lake a gam bel	Upland	· 42 - 32 -	Geese	3,100,000	1,000	400
report	Marsh	500	Swans	90,000	Armanina Com	49
hettimi	Water	4.500	Coots	2,500	O LUN COMP	-
-017089	Total	4,900	Total	285,000	The state of the	20
	D LADEO L	7,000		3,417,300	12000	6/7
Rice River Pool	Crops		Ducks	-800,000	200	
alasaso	Upland		Geese	40,000	300	200
cultural	Marsh	1.550	Swans	531		25 (8)
ving	Water	2,000	Coots	10,000	AANON ASSESSMENT OF THE PARTY O	
	Total	-2-003-	Total		C GLOCK COMMANDE	an earlier
8 80	Lithan I	_ 49779 _		850,531		225
Rice River and	Crops	2 200015	Ducks	250,000	600	600
Tributaries	Upland	245	Geese	45,000	26	
Joe	Marsh	340	Swans	42,000	20	40
ela-	Water		Coots	5,000		
ent	Total	650	Total	900,000	626	640
marsh;	and deep	websem Je	w Blockbu	tyme, incl	vegetation	248
Ponds, Potholes	Crops	e alla othe	Ducks	98,000	1,000	610
and Ditches	Upland Marsh	175	Geese Swans	10,000	30	60
trictly	Water	1,065	Coots	o may and	J IIIVA mana i	-
laya	Total	San Carry Sins.	Total	500	ISUSA WWW.	686
d tree	IOUAL	1,313	TOUAL	108,500	1.050	670
ebmie	Crops	ind maritin	Ducks	en flowlag	awamps, op	
Mandy and Twin Lake	Siluland	Tol Bearing	Geese	25,000	14 TO 150	2.0
tple	Marsh	70	Swans	811	90 03 44 4	-
	Water	100	Coots	VI THE	9°L Lippenson	- Company
-1389	Total	106	Total	4,000	h pilo mes	
	Jim Sala	276	Bane a	29,811	50	20
	Crops		Ducks			
Agricultural Units	Upland	241	Geese	128,740	- Stan 50 U	7 a v = 90 ad (E)
HOLI	Marsh	Lane The	Swans	69,000	BOLLOW STREET	
	Water	n star market (,)	Coots	- MANTON SHOPE	Olympia.	
	Total	226	Total	303 740	***	A COLOR DE COLOR
each cach	to molite I	338	and to	191,740	50 -	(4)
Grand Total	Crops	- 013	Ducks	1 102 710	2 600	nollaluqoi
- Gray To ACT	Upland		Geese	4,401,740	3,000	1,880
tt age.	Marsh		Swans	188,811	100	, 150
1000	Water	-9,555 -5,944	Coots	3,091	DOUBLE BOOK	THOTO COMMON TT
	Total	10 567	Total	304,500 4,898,082	3,150	2,080
		00015	5 707	ver)	ting Section,	Interior Duplike

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) Area or Unit: A. geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should be equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- Crops include all cultivated croplands such as cereals Habitat: and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not 000 min including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly In Cities open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field, observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding
 Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

Latel bugge

WATERFOWL JNTER KILL SURVEY

1971 Year 196

Refuge Rice Lake N.W.R.

(1) Weeks of Hunting	(2) No. Hunters Checked	(3) Hunter Hours	(4) Waterfowl Species and Nos. of Each Bagged	(5) Total Bagged	(6) Crippling Loss	(7) Total Kill	(8) Est. No. of Hunters	(9) Est. Tota Kill
		Maried 10	According the same and the course of the sold	e gaile el adoc	nccessive t	enification		
	biopai e ed bloods	noisem	No waterfowl hunting on refuge.	and when	months and	leog on Lino sta	(5)	
	oras asim	DELEG A	delet at bedaud sous dose at bee Meew eat t vectoe od Johnes Lees Jacove e, 25 eat bedau vectoe od Johnes Lees Jacovee, 25 eat bedau estab evitatueerage.	bahnam	a strolle v	nainelle admund sa ad-bluen		
		» (3)	cours the huiters spent hubbles on the refu	Do redi	ou Isjoj e	ld broom	(3) 1	
	allard (61), d), Green-	l tyde) seco	noreasing order of mambers banged, Sangle of Garada (11), Widgeon (6), Good (8), Canada	nt ead (d() be	rfowl spec 36), Redhe	Lintail	(4)	
		<u> </u>	begged Proline	isu lo s	sedmin Lade	d broomi	(5)	
		, bet	evices for full modeled down but not recove	ew lo a	todawa fete	d bropei	(6)	
					Common 5		(1)	
380	galbelont	'yaen an	t galine equier eds no bestund add executed in	(S count	50) barbods	eristma	(6)	
			O percent. Column 9 - Column 8 x Column 7x	L od be	pelorg ele	me Ilia	(8)	
		-						
	69-84608							
	Level de la		(over)	Love 1				

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Greenwinged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.

1971

- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column } 8}{\text{Column } 2} \times \text{Column } 7$.

Refuge Rice Lake

UPLAND GAME BIRDS

Months of James to to have 1971

Form NR-2 - UPLAND GAME BIRDS*

(1) Species	thinks se toeste heteerer of ton been nolite			(4) Sex Ratio	EVIS:	(5) Remova	ils	(6) Total	(7) Remarks	
Common Name	ould be detailed enc	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Resstocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse Sharp-tailed	8,000 acres timber and brush 2,000 acres grass,	27	nder Rem	u bed	ld be indica	anno	sası of lo	8 30	300	About same as 1970; drawning by mid-April (E) Spring count down some but
Grouse redio :	etc. Include data o	100 ,ajmas	sy, phes	draut	rily to wild	rima	ies p	Eggs	20	rore birds moted around roll (4)
Woodcock	5,000 acres timber and grass-brash	500			sach categor				100	Very little evidence of Woodcock use through April
AND THE RESERVE OF THE PARTY OF	period. This may i g certain seasons. ared in survey. Als	nitub s	a bus no	j ojs	migrating s stermine pon	nose	pean Tank	thod	resident of	
		.bed.	y reque	fical	on not speci	ijes	infor	nent	other perti	*Only columns applicab
				- 106	ED SG DIDORE	De.	5405	00113	2 5113 00 03	DECITORS CHARLES CONT.

Form NR-2 - UPLAND GAME BIRDS*

DENSITY:

bedseeper vilability

(2)

(1)	SPECIES:	Use correct	common name.	Refuge Mice Lake

- Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding nabitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

^{*}Only columns applicable to the period covered should be used.

UPLAND GAME BIRDS

Form NR-2 - UPLAND CAME BIRDS* (April 1946) Rice Lake Refuge Months of May to August 19 71 Applies particularly to those species (3) (4) (2) at gotter (6) (1) of vi (7)(5) Young Sex information is Remarks Total Density Produced Ratio Removals Species Estimated Total Estimated ould be detailed en da asor number using Refuge Number broods observed For Re-stocking Acres number Hunting Pertinent information not sure the general picture. Per specifically requested. Cover types, total acreage of habitat Bird Percentage List introductions here. Common Name itted should be base adua on actual ld be indies sans elque axina der Re Ruffled Groune 5,000 acres timber 11 200 10 500 Production appeared about and brush ung produced, of y ervati ased equal to 1970 in repre-.Jejided anlbeen Sharp-tailed 1,200 acres grass, 30 3 .vs ies primarily to wild 40 31 30 gge More young observed than Grouse brush and cropland pecies if . olds [lava a year ago. Probably a slight increase. ndicate total number in each category removed during the report period. Woodcock 8,000 acres timber. 160 20 wier end an au redmin Lator 50 Occasional observations but brush, grass and resident birds plus those migrating into the refuge during none on singing route. marsh (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include bettemper vilasificege for neiterroini thentinen tedit *Only columns applicable to the period covered should be used.

Form NR-2 - UPLAND GAME BIRDS*

st introductions here.

(1) SPECIES: Use correct common name.

Applies particularly to those species considered in removal programs (public hunts, etc.).

Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture.

Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of

Mag Loke

pedicit some 000,8

sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding nabitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

UPLAND GAME BIRDS

RICE LAKE Refuge

Months of SEPTEMBER to DECEMBER 1971

Form NR-2 - UPLAND GAME BIRDS*

(1) Species	(2) Young Sex (5) Density Produced Ratio Removals			(6) Total	(7) Remarks					
Common Name	cure the general pic	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting For Re-	stocking For Research	Estimated number using Refuge	Pertinent informations specifically requalist introductions	ested.
uffed grouse	5,000 acres timber & brush	16	10	200	produced, i	100			YOUNG PRODUCED:	(٤)
harp-tailed grouse	1,200 acres grass, brush & upland	30	eard 'As	20	rily to wild	s prims	applie svailab	50	SEX RATIO:	(4)
oodcock	8,000 acres timber brush, grass &	160	nub bevo	10	each categor	ber in	maa Led	50	REMOVALS:	(5)
nclude	marsh	report durin	ring the	ge du nto t	ing the refu migreting f	nbar us s trose	un late rds plu	Setimated to resident bin	TOTAL:	(6)
) include	ared in survey. Ale	nes cov	y reque	ulati Cical	stermine pop om not speci	ed to d	shod us	Indicate met	REMARIOS:	(7)
				.bs	should be us	betevo	o bolys	le to the p	y columns applicat	Ino»
*										

(2) DENSITY:

lat introductions here.

(1) SPECIES: Use correct common name.

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of

Refuge RICE LAKE

1,200 acres drass.

Ruffed grouse | 5,000 acres

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

sample area or areas should be indicated under Remarks.

- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

RICE LAKE Refuge_

Calendar Year 1971

(1) Species	(2) Density	(3) Young Produced			(%) Removals				(5) sses	In	(6) troductions	(7) Estima Total F	ted lefuge	(g) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec.	
White-tailed deer	12,000 acres marsh and upland	50	0410 8 3 0.2	nagy nas nastr	SAS SAS	avos ind z. si ž. typ	rol sou rab		the and a large of the second		oso segnad lab adt deit gase surte friete asery ur ed bisud	100	50	
Moose	igned to sale of bear bond	Survey m	- 53		0.3	guna phuu	avi baj	155 39 3	ine set but so	or or bin	od atom oho	2	-	
Black bear		5	bos	7 78	crony	20 1	ede	32	Latos	bets	MANUEL MARKE	10	() 5	
	during the year.	SVOGST TO	693	200	dos	a at	rod	222	Esten	sis	India	RIMCVALS:		
at.	mates indicate total losses	imble est	200	70	a in	recor the ye	30		to ala	eď a sjac	On th	TARESTRE:-		
	which stock was secured.	mort you	38	20 1	210	or h	9	10.50	ine mi	980	elbal 188	190UGGHTW1		
p.7	on the refuge at period of	a species	DAG			Dalus Dia 1	1 1	bed bos	emijos sbunds			ECENT REPU		
from	f each species as determine	females	ben ave	BO!	inim id 33	tio on	80.8 70	a dio	ine pe	eta edo	othal bisit	COTTAN AND	(8)	

Remarks:

Moose transient.

No state big game gun season - low deer population given as reason.

Carl E. Pospichakeported by Onla Refuge Manager

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMCVALS: Indicate total number in each category removed during the year.
- (5) LCSSES: On the basis of known records or reliable estimates indicate total lesses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE
 POPULATION: Give the estimated population of each species on the refuge at period of its
 greatest abundance and also as of Dec. 31.
- (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

Refuge Rice Lake

Year ending April 30,1971

(1) (2) Species Density			(3) Removal					D	(5) Total					
etc.	diodamast Bellst-oth Mook blaffs add of th	e terrell and one	THE RES				(a) (b)	Share Trappin		ing	ing epo			Popu
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hun ting	Fur	Predator Control	For Re- stocking	For Re-	Permit Number	Trappers	Refuge	Total Refuge Furs Shipped	Furs Donated	Fure Destroyed	tion
-Agricht	y cover types. This is	E Laures	7500	5317				ात वर्ष व	i de asili					
gor	the caluest once minest	no ben		and the same	Service of	2011		Secretary Trans					10	
VOP	esamedo inscribilizado es	toroge	bel	Table 1	30			STREET OF RE	l milit				70	
sklin's Gr. Sq.	es danona belleseb ad	Billion	801	1 19	600	92.00	-	BB 36 BB	en ersk				Unc	mmon
limed Gr. Sq.	obscure the general of	et ou de	791.4	3 30	1 320	and the		d to the	in silf				Ver	COMMO
wshoe Hare	al emiliotras anthur	ra , choo	oper.	n de	sign	, mark	2 201		September 1					Incommor
et bese	ti elodere opyl histois	e\$c 81	. 10	ries	1 881	23 27	age of	density	S Durauf					0
ret - due come	od where possible. It	or ed hi	ode		M as	Bert	10000	Spenish in	LAB LED					50
or Ottor	sent counts on teprese	DO IN SYN	arti	Ing	126 4	o See		SELECTION						10
pupine of fileda	payer to acts ofquer	to estima	TE	bass	Sod	DIR 155		.02572	Service					80
tentail rabbit						-2328	1000	PRINCE S PAR	te chil				1	one no
DOOM				100	5									300
Lped Skrank and day of	firma esata sevener	rrogates	des	7.55	5	edette	Lady	THE R	107700				The second second	100
Squirrel Landers you	uge by Service Predate	tex edt	10 1	0.903	250	STIP	ERON .	1203.01	- STREET					are
y Squirrel	uder beedingelisted.	ant Lin	20	E 87	FER	T THE	1000		ine sale			*	1	airly o
Squirrel														ommon
ing Squirrel sautes	has erade p'reaged	radmin	tim	99.3	1 2	PE ab		E9137 -00	PO 20	1,000	20 30		1	airly o
a by Service Man	t, including furs take	disam of	bee	- printe	0.2E	er Te	re des	E BAR IN	to Mari					ommon
ol -entrique 20	oles destrojud-becaus	iqu doas	30	nsin	Id	Legis	V LAN		E STORY					nirly e
debuck selected to	die to anoliuilius o	bedam	- 80	13 D	133 -	o first	(C)	grant 3	-0.000			-		hirly o
Pex	Predator Animal Hunte		15.8	773	mer Ad		127.1	PENSON RE	LEGISTA:					10

Lns , sectionist (a) sets signer to aste , been (a) bedres greatered etaul

Bobcat REMARKS:

Reported by

Carl E. Forrichal Refuge Mgr.

INSTRUCTION

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES:

Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY:

Applies particularly to those species considered in removal programs.

Detailed data may be omitted for species occurring in limited numbers.

Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture.

Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Refuge Rice Lake N.W.R.

Year 19.71

Botulism		Lead Poisoning or other Disease							
Period of outbreak	NONE	Kind of disease	NONE						
Period of heaviest losses		Species affected							
Losses: Actual Count	Estimated	Number Affected Species	Actual Count	Estimated					
(a) Waterfowl (b) Shorebirds (c) Other									
Number Hospitalized No. Recovered	% Recovered	Number Recovered							
(a) Waterfowl		Number lost							
(c) Other		Source of infection_							
Areas affected (location and approximate	e acreage)	Water conditions							
Water conditions (average depth of water areas, reflooding of ex		Food conditions							
Condition of vegetation and invertebrate	e life	Remarks							
Remarks									

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

3-1757 Form NR-, 'Rev.June 1960)

Refuge Rice Lake N.W.R.

Year 1971

	(Seed			s and Re cks, tre				(Plant Marsh - Aqua		.)		
3pecies	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Los
Wild Rice	4,086	С	9/8 to 9/20	Hand flail by Indians			Area to north east of landing to 200 yerds off shore		90 acres	wild rice	9/8 to 9/20	Unknown	

(1) Report agronomic farm crops on Form NR-8	Remarks: 200 pounds retained and donated to the State of Minnesota
(2) C = Collections and R = Receipts	for planting into their new Kimberly development adjacent to refuge.
(3) Use "S" to denote surplus	* Results of survival will not be known until spring and summer
	of 1972.
otal acreage planted:	
Marsh and aquatic 90	
Hedgerows, cover patches	
Food strips, food patches	
Forest plantings	

3-1758 Form NR-8 (Rev. Jan. 1956)

Fish and Wildlife Service

Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Cultivated		Permittee's Share Harvested		Government's Share or Ret			rested Total		Green Manure, Cover and Water- fowl Browsing Crops	
Crops Grown	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons	Acreage Planted	Type an	Total	
Corn		68			28	35	28	Mowed h	nay strips	145
Oats		1 1 1	A E		24	25	24	Rye		21
Buckwheat		3 3 3		9 7 5 5	23	15	23			
	N N	100	108	4 1 2 2 2 2	5.0	Mark .				
	Day of	2 10	F 11		8	A SE				
		F.B	2 THE TOTAL OF THE			4 1 5 6				
	1 584	NO TO THE	Melbo	221.8		TO DE				
		bas c	but a		1			Fallow .	Ag. Land	3
		9 200	100	The 2 12 18 18 18 18 18 18 18 18 18 18 18 18 18	2000 1 100 100 100					
o. of Permittees:	Agricultur	al Operation	ons	5 1 2 A 1 A	Haying	Operations	9	Grazin	g Operations	1
Hay - Improved (Specify Kind)	Agricultur Tons Harvested	al Operation	Cash Reven	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I	Haying BRAZING	Num	自己因為	Grazin AUM'S	g Operations Cash Revenue	1 ACREAGE
Hay - Improved	Tons	S OF	Cash	ue		Num Ani	ber		Cash	1 ACREAGE
Hay - Improved	Tons	S OF	Cash	1.	RAZING	Num Ani	ber	AUM'S	Cash Revenue	1 ACREAGE
Hay - Improved	Tons	S OF	Cash	1. 2.	Cattle Other	Num Ani	ber	AUM'S 75	Cash Revenue	1 ACREAGE

DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under <u>Cultivated Crops</u>, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

	(1)	(2) On Hand	(3) Received	(4)		GRAIN D	5) SPOSED OF		(6) On Hand	Propose	(7) D OR SUITABL	E Use*
	VARIETY*	BEGINNING of Period	During Period	TOTAL	Transferred	Seeded	Fed	Total	END OF PERIOD	Seed	Feed	Surplus
orn		225		225	16-01482-1	1. 6. OUVERNUENT FRE	LINCOLLIE O	50	175		175	
ye		CT.	tion of grai	n, unusuai us	es propose	q-			175		175	
100			cate here			bbec23		or 81.23 tra	msferre 90 ²³	ta on 90-		
ats				481		29		29	19	19	1243	
				id station fo		r and recei	ving.		*			
				sed break-do leeding new		rieties of g	FRIN HSTGO	i m coumm	o. maicate	II Stain is		
			unn 4 less o				A A CONTRACTOR		4 27 32			
				ons 2 and 3.								
				food patch	18-							
				n received d								
				e, as specifi								
				a cowpeas, n								
		h)	rbrid corn,	garnet wheat	, red May	wheat, dur	um wheat,	spring whea	t, proso mill	st, combine		
				of grain sep			1000					
				-55 lb., oat ing volume o								
	gra	in shall be	considered	equivalent	to a bush	el: Corn (shelled) -	55 lb., corn	(ear) -70 lk	" wheat-		
		Report all		ishels. For	the purpo	se of this	report the	following a	pproximate	weights of		
		11		over all grai	n on hand	, received,	or dispose	d of, during	the period	covered by		
3) Ir	dicate shipping or	manual y										
) C	rain is stored at		Refug	e Grainery	ERICE	GRAIN R	EPORT				*	
<i>,</i> G	ram is stored at					***************************************						

Refuge RICE LAKE N.W.R.

RECEIAED

(4)

ON HAND

GRAIN DISPOSED OF

JAN. through

DECEMBER

PROPOSED OR BUILDELE USE*

. 195 7

Refuge RICE LAKE N.W.R. Year 194 71

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Alfred Koski	70-11	Compt. 9		170 Cords	\$203.00	\$203.00		Aspen

Total acreage cut over	Total income \$203.00
No. of units removed B. F. Cords. 170 Ties.	Method of slash disposalDispersal

Refuge

RICE LAKE NWR

Proposal Number Reporting Year

ANNUAL REPORT OF PERSTICIDE APPLICATION

INSTRUCTIO	NS: Wildlife Refuges Ma	anual, secs, 3252d, 3394b an	d 3395.				197.	
Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemica l (s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		NONE						

^{10.} Summary of results (continue on reverse side, if necessary)

3-1750 Form N. (Rev. March 1953)

WATERFOWL

MICH LAKE REFUGE MONTHS OF TO DECEMBER, 19 reporting Weeks o f Sept. period (1)Nev. Species . 29 44 5 211 12 3 18 19 4 25 26 5 3 6 9 : 10 7 15:17 823 : 24 9 30 : 31 10 6 Swans: Whistling 100 300 10 30 Trumpeter Geese: ACK! 500 2,500 Canada 1,000 1,500 2,500 1,500 1,000 300 4 6 Cackling LT 5(1) 250 30 Brant White-fronted Snow 200 500 AW) Blue 2,000 1.000 3.000 500 Other Ducks: Mallard 2_000 3,000 5,000 20,000 20,000 25,000 R,900 15,000 15,000 10.030 Black 1.000 ILE. 1,500 1,500 Gadwall Baldpate 3,000 300 7,000 2,000 Pintail 2,500 Green-winged teal 2,800 5,000 7.000 4,000 3.000 4.000 500 Blue-winged teal 1000 5.6X 热点 Cinnamon teal Shoveler 50 1000 00 50 Wood 1 ***5**00 1.500 500 Redhead TO S 12 .5500 1,000 200 10,000 Ring-necked 500 35,000 55.000 305_200 10.000 Canvas back 50 100 LOS nege. 200 250 Scaup 130 X 4.57 13.000 10 Goldeneye 政法 20 20 33 20 100 **200** Bufflehead 30 50 117 Ruddy 200 基键 143 25.36 Other M. Market ST 1 SERGE. 300 300 SAR 200 Coot: 3,000 10,000 25,000 30,000 20,000 10,000 5, XX 1.000 100 Int. Dup. Sec., Wash., D.C. 37944

WATE OWL (Continuation Sheet)

	:			(2)					: (3)		(4)
(1) Total Troduction:		eeks							: Istimated :		ection Estimate
Species	7 11 13	141920	21937	14 :	15	16	17	18	days use	seen	
wans:		2000	Stor for	177686	at on a	etnus.	gently or	Amy ce	EAS OU 14,000	8 berr	Sec
Whistling	200								4,430	W. manif	
Trumpeter			enamined	under	(3)						
ese:	10% of the						-		82,600		
Canada	of of the	breed n	habita	. Bat	[mates	DAVIDA	DO DE	sis in	SECO DITORITY OF A	BThroa	
Cackling	TO STREET OF STREET			Dannoil	sounts.	should	De-ma	de on-ti	O ST HOL CORSI	o'PEr of	Service .
Brant				meg/ace	Lbased	on of	Berval	Lone am	actual countre	ou reb	a_
White-fronted	ACCORDA HA	Second Park							9,100		
Snow		And an entering	lations	w numb	Tr of o	aya pr	esent	for each			
Blue									Margar GO		
Other	IO A THUR AZIO	Secretary Secretary					100	1.7		1 171	
CKS:	* ***		and the second	mulati	Ma.				952,000		
Mallard	1,000								49,000		
Black	TARR OF A			1					神景を行いる		
Gadwall	dier sone		the of	Durt 8	d hatti	onal s		SENGE !	540,100		
Ealdpate	and the same of th		muld live	added	n appr	pprlat	apac	sa, Spe	CTRT C	otto er per	DO.
Pintail			Linda 13	ahad d	form.	other	speci	se oddur		700 THO	0316
Green-winged teal	Ottober / es								226,100 332,030		
Blue-winged teal			acos the	Shareh W	21 (14)	311 fe	Refug	B Tield	and the same		
Cinnamon teal									7,000		
Shoveler									106,400		
Wood					The second				34,937		
Redhead				135	nout ad	Dr. (1			191029000		
Ring-necked									19,333		
Canvasback	2 20000								2019030	7/80	
Scaup	1,500								3,000		V.
Coldeneye	100			2.00	1 4 4 4 4 4	MOET	50 833	FE 85	29130		
Bufflehead	103								-7:1e		
Ruddy			- 2						20,000		34
Other H. Marganger	1296					-					
ots:			•			energy.			730,100	Section Section	
Col. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	TO UNITED SE	0197	20-								Y.
			THE STATE OF					GILLO	WD A		
					over)					.,	
				1					350		

	(5) Total Days Use :	(S) Peak Number : To	(7) otal Production		SUMMARY	<u> </u>
Swan	as 4,6 39	\$90	Princ	ipal feeding areas	alco Labo, Rico R	Nor Inda
Cees	se 140,330	5,150	A	enthurst entitle	30 ¹ 201	
Duel	3,740,450	103,260	Princ	ipal nesting areas	5742	
Coot	.s 200100 ;	\$0,00%			501213	
	Olimanon teat Shoreler Wood Redhead		Repor	ted by Call	Property l	ager
	INST	RUCTIONS (See Se	ecs. 7531 through 7534,	Wildlife Refuges F	ield Manual)	
(1)	Species:	reporting perio	the birds listed on fo od should be added in a species of local and n	ppropriate spaces.	Special attention	
(2)	Weeks of Reporting Period:	Estimated avera	nge refuge populations.		48/1000 809*000	
(3)	Estimated Waterfowl Days Use:		populations x number of	f days present for e	each species.	
(4)	Production:	sentative breed	er of young produced bading areas. Brood counteding habitat. Estimate	ts should be made or	n two or more areas	aggregating
(5)	Total Days Use:	A summary of da	ata recorded under (3).			
(6)	Peak Number:	Maximum number	of waterfowl present on	n refuge during any	census of reportin	g period.
(7)	Total Production:	A summary of da	ata recorded under (4).	In a period	saterfori days and	Production F aronds: Estimates seen ; total

Interior Duplicating Section, Washington, D. C.
1953

MR-T

3-17508

3-1751 Form NR-12 (Nov. 1945) ogne crou:

INT.-DUP. SEC., WASH., D.C.

Estimated total number of the speci using the refuge during the period concerned.

the state of Abrus (other than waterfowl) Months of to 195

Seen. The tast fetage fecold for the Species during the season concerned.

Common Name Number Date Number Date Number Date Colonies Number Colonies Lessina Numbe	(1)	(2)	(3)	(4)	(5)	(6)
I. Water and Marsh Birds: The state of th	Species	First Seen	Peak Numbers	Last Seen	Number Total # Total	Total Estimated
II. Shorebirds, Gulls and Torns: Little Shore State of the Collect name as (1900 to 1912) Sandard State of the Collect name as (1900 to 1912) Little Shore State of the Collect name as (190	Common Name	Number Date	Number Date	Number Date	"	Number
II. Shorebirds, Gulls and Terns: Summer Sesiont 100 9/1 2 10/12 Soil places 3 9/15 3 9/15 2 9/17 Colon places 10 9/13 15 9/15 10 9/15 Sotton and the sesion 100 9/15 10 9/15 Losar sanding 10 9/15 10 9/15 10 9/15 Losar yellowless 30 9/15 10 9/15 10 9/15 Losar yellowless 30 9/15 10 9/15 10 9/15 Comme tarm Summer Collect 200 9/13 5 9/24 Included 100 9/13 5 9/24 Included 100 9/13 5 9/24	Cook Blue beson American bittern Virginia Bail Landbill Crave Dalted Eliggiober	der. Avoil geheral	10 10/18 10/18 60 11/15 9/13 30 9/1	during e 1/3 during he 3/3 he 8/4 he 3/3 he 3	addition to the birds listing period should be added a species of local and Natimes to Ciconiifornes and Gharadriifornes)	ed on in appro- nal uiiformes)
	II. Shorebirds, Gulls and Terns: plant plant leant Lea	3 9/15 9/13 ealdons resident 9/3 10 9/3 10 9/3 30 9/1 Summer visitor	100 0/1 5 9/15 10 9/13 90 9/15 10 9/3 10 9/3 100 9/15 100 9/15 100 9/15 100 9/15 100 9/15 100 9/15	2 10/12 2 9/17 3 10/12 1 10/12 1 11/3 9/17 3 9/17 3 9/15 10 23 10 23 10 11/2	P2 00 18 13 4 9 4 9 7 9 7 9 9	

(over)

	* *	(0407)			
(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons: Mourning dove White-winged dove	Occasional visitor		4 9/22		
IV. Predaceous Birds: Godden eagle Duck Nawk Horned owl Magnie - Inter	1 12/26 Sections	10 12/25	1 12/5 1 12/26 1 11/30 2 12/31		
Raven Crow	Resident Resident Resident Resident	10 500 10/12 20 10 9/1 1 11/14	2 12/31		
Hersh hask Rough-legged hask Droad-uknzed bank	Sugger pesident	25 9/8 20 9/8 20 9/8 20 9/8 15 9/8	1 12/23 3 11/2 10 11/13		
Godhaud haud Godhaud Sparrod haus Shaup Shard a	Sugger resident	75 19/8 5 9/18	Reporte	by all Vosquital	uge Manager
Caoper's hank	1 10/7	INSTRUCTIONS			

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) tal: Estimated total number of the special using the refuge during the period concerned.

INT .- DUP. SEC., WASH., D.C.

TOTAL

3-1750 Form NR-1C (Sept. 1960)

WATERFOWL HUNTER KILL SURVEY

1971 Year 190

Refuge Rice Labo H. H. R.

			TANGERE			and the second	and any of the resistance of the second	
(1)	(2)	(3)	(4)	(5) Total	(6)	(7)	(8)	(9)
Weeks of Hunting	No. Hunters Checked	Hunter Hours	Waterfowl Species and Nos. of Each Bagged		Crippling Loss	Total Kill	Est. No. of Hunters	Est. Total Kill
Harroring	oneened .	Hourb	reste car on some one van antonco nitri kitys	d antiqu	m lo meen	ball of	(2)	
		**	Llow the same patterns	ol axes	r evimenno	ater. S		
	barnes (d han is oplitant		y a min	erros et el	The state of the s	e (s)	
	od nobia	beauty ex	tisies al besimed even come of bes were builted	is weath of	in a say beach	sta only ollected		
	ensu talin	d, parts	When the 25 percent goal cannot be achieve	babuoo	m dinile m	dund en		
			hours the hunters spent lemaing on the refu	to tedi	mu fadod e	id broom	(8)	
	allard (61),	M. rysta Hoose f	ecressing order of members bagged. Sample Gadwall (11), Widgeon (6), Coot (h), Canad	es in c	n'ond speci 36), Redhe	Linduck	(d) ·	
			bagged iso're	aw lo s	redmin Labor	d brocei	(2)	
		, ber	evener fee jud mooked known but net recove	ion To 1	medmum faj	it brooms	(6)	
				.d bae	Columns 5	lo Isjai	(7)	
	Bulphloui	*yeam - et	f harters who hunted on the refuge during t	aunber Luma 2)	Latot edi 00) badoari	Setimato Muntera	(8)	
4.1 X 1			O percent, Column 9 - Column 8 s Column 7.	£ od be	instant of	nse II/2	(9)	
								ě
4			Autoria.			41-83		
				The state of				
	C3-8508			J				
			(over)					

INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Greenwinged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column } 8}{\text{Column } 2} \times \text{Column } 7$.

3-1752 Form NR-2 (April 1946) UPLAND GAME BIRDS

Refuge LAW Months of Service to to to the service to the servi

Form NR-2 - UPLAND GAME BIRDS*

(1) Species	(2) Density	otal a	(3)	ies o r typ to th	(4) Sex Ratio	imo r ar fuge	(5) Remova	n son Los q	(6) Total	(7) Remarks	
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent informations specifically requestions List introductions	ested.
da repre-	Space a description	86	10	u best	7		reas of y		Satimeted I	YOUNG PRODUCED:	(3)
prouse regio :	1,2 - come grade, bound - upland, of		sy, phes	20 drud	rily to wild		ies p	Lqqs	This column species if	SEX RATIO;	(4)
locicech	8,000 acres Claber brosh, grass &	263	zub bevo	1.50 115 Y	each categor	in	redan	a Led	of addition	REMOVALE:	(5)
ndlude	period. This may i	report s durds	ting the	ge du nto t	ing the refu migrating i	agor an 1	aumbe lus t	otal rds p	Estimated t resident bi	TOTAL:	(8)
abulant d	ered in survey. Als	rea cov ited.	os and s Ly reque	ldafi Lao M	stermine pop on not speci	b of	lnfor	thod	Indicate me other perti	FUEMARHOS:	(7)
				. be	au ed bLuods	bet	evop	ertod	le to the p	y columns applicab	Tu0*
									*		

3-1752 Form NR-2 (April 1946)

Refuge

(1) SPECIES:	Use correct common name.	
--------------	--------------------------	--

- Applies particularly to those species considered in removal programs (public hunts, etc.).

 Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture.

 Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

sample area or areas should be indicated under Remarks.

- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

RICE LAKE Refuge_

Calendar Year 1971

(1) Species	(2) Density	(3) Young Froduced		Ren	10A6 (jt)	ils	(5) (6) Losses Introductions			(7) Estimated Total Refuge Population		(g) Sex Ratio		
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter	Number	Source	At period of Greatest use	As of Dec.	
White-tailed deer	12,000 acres marsh and upland	30	H 100 H	ypew out out out out	7 1 308 878	evos ded sel	ko doli oos anh	eet Fea Sta Das	the court to the court of the c	al a beal mi .	changes occupits the designment of the designment of the control occupies the control occupies occupie	100	50	
Moose acra	early ldeson on heard of bigs	da beville Street m	18	857		E . s gaing Kowa	ES I	ege C Fad	35 2 3 10 35 2 3 10	a de ed d etc	in ed blucki and counts o	2	-	
Black bear	* * * * 	T no bead	505	7 30	a en	20 1	e des	95	[adop	be ta	ELSEE : CEO	10 HO 10 NO	(8)	
		ewomer for	030	teo	riten	a c2		ROE	Lates	ejs	ladio	REMCVALS	(10)	
nž		tes eldal	Iss	20	8.05 588	ober g sali	9.8°		to a fa	ad a cate	do esch	LCSSRB:	(8)	
	which stack was secured.	ecil vies	88	TO 8	31/3	on be	8 1	ed's	en off	oda	nis: Indie	INTRODUCTI	(9)	
ad		satonne s	0.0	10 kg	gol	toim els i	oq oq	ban won	inttec stands		E Ciye	TOTAL REDU POPULATION	(4)	
from	f each species as determine	exlemel 191	la ma	cel cet	adju Mga	lo #3	10	9.2.7 8.670	ag spit titavit	ede ede	ofbul Mell	SEE BATTO:	(8)	ě

Remarks:

Moose transient. No state big game gun season - low deer population given as reason.

Carl E. Pospicha Reported by

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
 - (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
 - (4) REMCVALS: Indicate total number in each category removed during the year.
 - (5) LCSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
 - (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
 - (7) TOTAL REFUGE
 POPULATION: Give the estimated population of each species on the refuge at period of its
 greatest abundance and also as of Dec. 31.
 - (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

Refuge Rice Lake N.W.R.

Year 19. 71

Bot	ulism	Lead Poisoning or other Disease					
		Kind of disease Species affected Number Affected Species Actual Count Estimated					
(a) Waterfowl (b) Shorebirds (c) Other							
Number Hospitalized N (a) Waterfowl (b) Shorebirds (c) Other	o. Recovered % Recovered	Number Recovered					
	and approximate acreage)	Water conditions					
	eflooding of exposed flats, etc.	Food conditions					
Condition of vegetation as	nd invertebrate life	Remarks_					
Remarks							

3-1757 Form NR-7 (Rev. June 1960) NONAGRICULTURAL COLLECTI , RECEIPTS, AND PLANTINGS

Refuge Year 1971

		Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Manch Associated Haland)							
	(Seed	s, ro	otsto	cks, tre	es, sh	rubs)		(Marsh - Aquatic - Upland)							
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss		
wild Rice	4,086	C	9/8 to 9/20	Hand flett by Indians			Area to north east of landing to 200 yards off shore	404/acze	90 acres		9/3 te 9/20	Uchnown			

(1) Report agronomic farm crops on Form NR-8 (2) C = Collections and R = Receipts (3) Use "S" to denote surplus	Remarks: pounds retained and donated to the State of Minnesota for landing into their new Minherly development adjacent to refuge
otal acreage planted: Marsh and aquatic	6.6.5025
Hedgerows, cover patches Food strips, food patches	
Forest plantings	

3-1756 Form NR-8 (Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Cultivated				rnment's Si		Return	Total	Green Manure, Cover and Water-			
Grown Grown	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons	Acreage Planted	Type an	owsing Crops d Kind	Total Acreage	
20 ve		8 H .			20		60	Mound b	may strips	145	
Cats		其間			26	23	24	Bye		21	
Buckwheat		September 1			23	15	283	8 2 8			
		S S S S S S S S S S S S S S S S S S S			21	00 to 10 to	J.F			16	
		在學家					12				
		4 9 9	sebox.	E STATE		10 mm		思 8		NAME OF THE OWNER.	
		7 6	form b	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		e de		Fallow .	Ag. Land	386 EC	
lo. of Permittees:	Agricultur	ral Operation	ons		Haying	Operations	9	Grazin	g Operations	1	
							Programme and the second				
Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash	THE RESERVE THE PARTY NAMED IN	RAZING	Num Ani	ber mals	AUM'S	Cash Revenue	ACREAGE	
Hay - Improved		Acres		ue	RAZING Cattle	Ani	The same of the sa	AUM'S		ACREAGE	
Hay - Improved		Acres		1.	H 2 8	Ani	mals		Revenue	ACREAGE	
Hay - Improved		Acres		1. 2.	Cattle Other	Ani	mals 15	79	8 75.00	ACREAGE 250	

DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. <u>Unharvested</u> - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under <u>Cultivated Crops</u>, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

Refug	e RICE LAKE N	leWeRe						Months of	JAN	through	[B] <u>S</u> (B, A) (C) (A).	
	(1)	(2) On Hand	(3) (4) RECEIVED			GRAIN D	(5) ISPOSED OF		UN IIAND		(7) DSED OR SUITABLE USE*	
	VARIETY*	BEGINNING OF PERIOD	During Period	TOTAL	Transferred	Seeded	Fed	Total	End of Period	Seed	Feed	Surplus
Corn		22.00		225	1661483-1	2 8, GOVERNMENT PR	50	50	175		175	
			tion of gra			g. 03		23	60	60	*	
Rye		(10) Ind	cate here	the source of n, unusual us	grain sh	ipped in, d	estination	of grain tr	insferred, d	ata on con-		
Cats				refuge 48 H				29	19	19		
		(8) Nes	rest railro	ad station for	r shippin	g and recei	ving.					
				seeding new								
				sed break-d		rieties of g	rain liste	in column	6. Indicate	if grain is		
		(6) Col	mm 4 less o	olumn 5.								
		(4) A b	tal of colu	nns 2 and 3.	1							
		р	arvest fron	food patch	63°							
		(3) Rep	ort all gra	n received d	uring per	od from al	sources,	such as tran	sfer, share o	ropping, or		
				. Include o								
				ce, as specifi								
				garnet whea a cowpeas, n								
				of grain sep								
	207			ing volume								
	60			-55 lb., oat								
	SI			equivalent								
		Report al	grain in b	ushels. For	the purpe	se of this	report the	following a	pproximate	weights of		
		This repo	ec sponia o	over all grai	n on nand	, received,	or dispose	ed or, during	the period	covered by		
(8)	Indicate shipping o	According to the control of the cont	nointa									
(9)	Grain is stored at		Refu	go Crattos	WENGE	GRAIN P	EPORT					*
(0)	Gram is stored at											
(10)	Remarks		***************************************									
*S	ee instructions on back	ζ.										16-61482-1

See instructions on butter

NR-8a

(2) province applicate or coper new received

RECE PARK NAME AND

(9) Grain is stored at

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

16-61482-1 S. GOVERNMENT PRINTING OFFICE TAR Total Leeg Burplus OF PERIOD PERIOD. PERIOD VARIETY' LOLYP END OF ON HAND ON HAND GRAIN DISPOSED OF PROPOSED OR SULLABLE USE"

Refuge .

TATOUTTURE OF

curoagu.

195

3-1	.761
Form	NR

TIMBER KEMOVAL

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Alfred Koeki	70-11	Compt. 9		170 Cords	\$203,00	\$203.00		Aspen

Total acreage cut over	Total income \$203.00
No. of units removed B. F. Cords. Ties	Method of slash disposal Maparaal